RESEARCH METHODOLOGY

This category lists articles evaluating methods of conducting research on children and television.

Anderson, D., Field, D., Collins, P., Lorch, E., & Nathan, J. (1985). Estimates of young children's time with television: A methodological comparison of parent reports with time-lapse video home observation. Child Development, 56, 1345-1357.
Compares parent diaries of 5-year-old children's time spent with television to concurrent automated time-lapse video observations.

Ball, S. (1976). Methodological problems in assessing the impact of television programs. Journal of Social Issues, 32(4), 8-17.
Examines design, sampling, and measurement as three areas that pose special problems in research evaluating the impact of television programs. Suggestions are included for improving sampling techniques.

Ball, S., & Bogatz, G. A. (1970). Evaluating SESAME STREET. Educational Television, 2(5), 24-26.
See p.1 - EDUCATIONAL IMPACT.

Ball, S., & Bogatz, G. A. (1971). Summative research of SESAME STREET: Implications for the study of preschool-aged children. Princeton, NJ: Educational Testing Service.
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Berk, R. A., Hennessy, M., & McCleary, R. (1976). Descriptive distortions in covariance based statistics. Social Science Research, 5(2), 107-126.
Examines statistical weighting techniques in evaluating the educational effectiveness of SESAME STREET.

Bernstein, L. J. (1974). Formative research on SESAME STREET program attributes: Some theoretical and philosophical considerations. Paper presented at the June 7, 1974 Intersession Institute "Trends in Contemporary Education for Urban Leaders," City College of New York.
[Annotation not available].

Buckingham, D. D. (1987). The construction of subjectivity in educational television. Part 1: Towards a new agenda. Journal of Educational Television, 13(2), 137-145.
Analyzes theoretical frameworks used to evaluate the effectiveness of educational television.

Burdach, K. J. (1983). Methodological aspects of formative research. In M. Meyer (Ed.), Children and the formal features of television (pp. 310-330). Munich: K. G. Saur.
Discusses formative research and evaluates the methodology of formative research projects done by CTW in the last 15 years.

Clark, R. E., & Snow, R. E. (1975). Alternative designs for instructional technology research. Audio Visual Communication Review, 23(4), 373-394.
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Cook, T. D., & Campbell, D. T. (1986). The causal assumptions of quasi-experimental practice. Synthese, 68, 141-180.
Compares and contrasts random-assignment experiments with quasi-experiments.

Cook, T. D., & Curtin, T. R. (1985). ERIC/ECTJ Annual Review Paper: Evaluating the CTW model for producing educational television. Educational Communication and Technology, 33(2), 91-112. (ERIC Document Reproduction Service No. EJ 322 488).
Evaluates the CTW model of educational TV production. Explicates its assumptions and assesses its effectiveness in terms of logical evaluation.

Cook, T. D., & Curtin, T. R. (1986). An evaluation of the models used to evaluate television series. In G. Comstock (Ed.), Public communication and behavior: Volume 1. New York: Academic Press.
Discusses metaevaluation -- the evaluation of the evaluation process of educational television series. Focusses on SESAME STREET and the CTW model. Discusses formative and summative evaluation.

Epstein, S. L. (1977). A comparison of two methods for measuring children's attention to television program material. New York, NY: Children's Television Workshop.
A comparison of two types of methodology for measuring children's attention: group observation and the distractor method.

Ettema, J. S. (1980). The role of educators and researchers in the production of educational television. Journal of Broadcasting, 24(4), 487-498.
Addresses two issues regarding the collaboration of television professionals, educators, and researchers at CTW. The first question focusses on the balance of power among researchers, educators, and television professionals. The second focusses on educators' and researchers' participation in the decision-making process.

Fowles, B. R., & Horner, V. M. (1975). The effects of television on children and adolescents: A suggested research strategy. Journal of Communication, 25(4), 98-101.
Suggests research strategies for evaluating the specific outcomes of particular instructional program content.

Kenny, D. A., & Cohen, S. H. (1980). A reexamination of selection and growth processes in the nonequivalent control group design. Sociological Methodology, 11, 290-313.
Examines the nonequivalent control group design and the model of sociological selection that separates subjects into treatment and control groups on the basis of stable group differences such as age, sex, or race. Uses Cook's 1975 secondary analysis of the ETS evaluation of SESAME STREET as an example.

Levin, S. R. (1974). Stimulus determinants of children's attention to SESAME STREET (Doctoral dissertation, University of Massachusetts). Dissertation Abstracts International, 39(01), 44B.
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McDonald, D. L., & Paulson, F. L. (1971, April). The evaluation of SESAME STREET's social goals: The interpersonal strategies of cooperation, conflict resolution, and differing perspectives. Paper presented at the Annual Meeting of the Association for Childhood Education International, Milwaukee, Wisconsin. (ERIC Document Reproduction Service No. ED 052 824).
Describes the research design and activities used to evaluate the impact of SESAME STREET's social-behavioral goals.

Messick, S. (1975). The standard problem: Meaning and values in measurement and evaluation. American Psychologist, 30(10), 955-966.
Examines measurement issues centering on the concept of construct validity.

Noble, G. (1975). Children in front of the small screen. London: Constable and Company.
See p.49 - ATTENTION, COMPREHENSION, AND MEMORY.

Palmer, E. L. (1972). Formative research in educational television production: The experience of the Children's Television Workshop. In W. Schramm (Ed.), Quality in Instructional Television. Honolulu, HI: University of Hawaii Press.
Details the methods and procedures of CTW's pre-broadcast formative research on SESAME STREET and THE ELECTRIC COMPANY.

Palmer, E. L. (1973). Formative research in the production of television for children. New York, NY: Children's Television Workshop. (ERIC Document Reproduction Service No. ED 071 434).
Describes and analyzes the approaches to formative planning and research taken by CTW in the production of SESAME STREET and THE ELECTRIC COMPANY.

Paulson, F. L. (1971). Interim report 5: SESAME STREET evaluation project. Progress report: Development of situational tests of cooperation. Monmouth, OR: Teaching Research.
Describes the development of testing instruments to measure cooperation, conflict resolution, and differing perspectives in children.

Reiser, R. A. (1987). Instructional technology: A history. In R. M. Gagne (Ed.), Instructional Technology: Foundations, pp. 11-48. New Jersey: Lawrence Erlbaum Associates.
Describes the history of the use of instructional technology.

Salomon, G., & Clark, R. E. (1977). Reexamining the methodology of research on media and technology in education. Review of Educational Research, 47(1), 99-120.
Discusses research methodology for a study with a pre- and post-test design which measured the cognitive impact of SESAME STREET.

Schauble, L. (1976). The SESAME STREET distractor method for measuring visual attention. New York, NY: Children's Television Workshop.
Describes the original version of the distractor method developed by Edward Palmer at Children's Television Workshop. The distractor method is a formative research technique to measure, on a moment-to-moment basis, the fluctuating patterns of visual attention which young children pay to televised presentations such as SESAME STREET.

Warren, J. (1976). Children's Television Workshop: The researcher is part of the crew. Educational Researcher, 5(8), 6-8. (ERIC Document Reproduction Service No. EJ 147 402).
Analyzes the researcher's role in the conceptualization and production of SESAME STREET. Discusses formative and summative evaluation processes and the distractor method of research.

Wortman, P. M., & St. Pierre, R. G. (1977). The educational voucher demonstration: A secondary analysis. Education and Urban Society, 9(4), 471-492.
Secondary analysis of the Rand Corporation's study on the Alum Rock Educational Voucher Demonstration. Mentions SESAME STREET as an example of construct validity in secondary analysis (Cook, et al., 1975) involving the separation of viewing effects and encouragement to view that were combined in the ETS evaluation of SESAME STREET's impact.

HISTORY OF SESAME STREET

This category lists citations that chronicle the history of SESAME STREET and CTW, as well as essays that describe the CTW model of developing educational programming.

Beck, T. K. (1979). Widening SESAME STREET. Journal of Educational Television and Other Media, 5(2), 39-42.
Traces the developmental history of SESAME STREET from the initial efforts to obtain funding and set goals to the importation of programs to other countries.

Best, T. (1974). On the other side of SESAME STREET. American Education, 10(4), 6-10. (ERIC Document Reproduction Service No. EJ 095 641).
Describes CTW's community efforts to reach disadvantaged children.

Bowie, M. (1982). Tips for local AV production from SESAME STREET research. School Library Media Quarterly, 10(2), 156-157.
Describes in capsule form some of the research findings and production principles that have contributed to the success of SESAME STREET.

Bretz, R. (1972). Three models for home-based instructional systems using television. Santa Monica, CA: Rand Corp. (ERIC Document Reproduction Service No. ED 070 319).
Evaluates instructional television projects using home-based television. Discusses elements of SESAME STREET's success and the CTW model.

Children's Television Workshop. (1989). Sesame Street Backgrounder. New York, NY: Children's Television Workshop, Public Affairs Department.
A running history of SESAME STREET from its inception in 1968 to the present. Provides a description of the characters on the show, and a season-by-season account of the changes in the cast and the curriculum goals. Updated yearly.

Connell, D. D., & Palmer, E. L. (1971). SESAME STREET: A case study. In J. D. Halloran, & M. Gurevitch (Eds.), Broadcaster/researcher cooperation in mass communication research. Leeds, England: J.A. Cavanaugh & Sons.
A seminar dialogue between CTW's David D. Connell, Vice President and Executive Producer, and Edward L. Palmer, Vice President and Director of Research, describing the production/research collaboration leading to SESAME STREET's development.

Connell, D. D., & Palmer, E. L. (1971). SESAME STREET: A lot of off-beat education? A Dialogue. National Elementary Principal, 50(5), 14-25. (ERIC Document Reproduction Service No. EJ 036 014).
See Connell & Palmer (1971) above.

Connell, D. D., & Palmer, E. L. (1974). Children's Television Workshop: Not for children only. American Film Institute Report, 5(1), 14-24. (ERIC Document Reproduction Service No. EJ 094 535).
Interview with Ed Palmer, Vice President for Research, and David Connell, Vice President for Production.

Cooney, J. G. (1970). The first year of SESAME STREET: A history and overview. Final report (Vol. I). New York, NY: Children's Television Workshop.
Outlines the evolution of CTW and the development of SESAME STREET.

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Documents the changes in SESAME STREET over its first 7 years.

Crane, V. (1980). Content development for children's television programs. In E. L. Palmer & A. Dorr (Eds.), Children and the faces of television (pp. 33-48). New York: Academic Press.
Reviews the subject matter and formats for commercial, educational, and instructional programming for children. Factors which influence program development were discussed (funding, audience, and production team).

Dreibelbis, G. C. (1982). A case study of Joan Ganz Cooney and her involvement in the development of the Children's Television Workshop. (Doctoral dissertation, Northern Illinois University). Dissertation Abstracts International, 43(04), 964A.
A case study of Joan Ganz Cooney. Based on personal interviews with Joan Ganz Cooney and her involvement with CTW during its formative years, 1966-1969.

Feinstein, P. (1971). All about SESAME STREET. New York: Tower Publications.
Tells the behind-the-scenes story of SESAME STREET. Describes details of producing the show using anecdotes.

Gibbon, S. Y., & Palmer, E. L. (1970, December). Pre-reading on SESAME STREET. Final report (Vol. V). New York, NY: Children's Television Workshop. (ERIC Document Reproduction Service No. ED 047 825).
An in-depth essay examining the evolution and implementation of SESAME STREET's language and pre-reading skills curriculum.

Hayes, L., & Herrera, A. (1976). Cultural diversity: Curriculum on multicultural awareness. New York, NY: Children's Television Workshop.
Provides a brief history of multicultural awareness as an inherent feature of SESAME STREET and discusses the 1976 curriculum goal of cultural diversity.

Hayes, L. (1977, April). New avenues of special education resources: SESAME STREET programming for the exceptional child. Paper presented at the 55th Annual International Convention, The Council for Exceptional Children, Atlanta, Georgia. (ERIC Document Reproduction Service No. ED 139 198).
Analyzes SESAME STREET's approach to developing educational television programming for children with mental retardation.

Hitchens, H. (1978). Educational television in the United States. Paper presented at the Convencion Internacional de TV y Educacion, Barcelona, Spain. (ERIC Document Reproduction Service No. ED 164 011).
Traces developments in educational television since 1952. Discusses four examples of ETV programs: CHICAGO TELEVISION COLLEGE, UNIVERSITY OF MID-AMERICA, SESAME STREET, and THE ELECTRIC COMPANY.

Kaplan, M. L. (1989). Does psychology live on SESAME STREET? Dissertation Abstracts International, 50, 06-B.
See p.20 - EDUCATIONAL IMPACT.

Kratochvil, D. W. (1971). SESAME STREET: Developed by Children's Television Workshop. Palo Alto, CA: American Institutes for Research in the Behavioral Sciences. (ERIC Document Reproduction Service No. ED 062 026).
Discusses SESAME STREET's history and philosophy, and reviews ETS summative evaluations of the first year of SESAME STREET.

Land, H. W. (1972). The Children's Television Workshop: How and why it works. Summary and overview of the final report. Jericho, NY: Nassau County Board of Cooperative Educational Services. (ERIC Document Reproduction Service No. ED 066 029).
Examines SESAME STREET's history and the CTW approach to program development.

Lesser, G. S. (1969). Designing a program for broadcast television. Cambridge, MA: Harvard University. (ERIC Document Reproduction Service No. ED 033 768).
Analyzes the role of formative evaluation by CTW to see how child watching has guided the design and construction of television programs.

Lesser, G. S. (1972). Assumptions behind the production and writing methods in SESAME STREET. In W. Schramm (Ed.), Quality in Instructional Television (pp. 108-164). Honolulu, HI: University of Hawaii Press.
Discusses the collaboration between production and research in the design of SESAME STREET.

Lesser, G. S. (1972). Learning, teaching, and television production for children: The experience of SESAME STREET. Harvard Educational Review, 42(2), 232-272.
Outlines the translation of educational goals and principles of learning and teaching into the actual TV programming of SESAME STREET.

Lesser, G. S. (1974). Children and Television: Lessons from SESAME STREET. New York: Random House, Inc.
An historical record of the processes by which SESAME STREET was created, developed, and implemented.

Lesser, H. (1977). The limits of instructional television for young children: An analysis of a controversy. In H. Lesser (Ed.), Television and the preschool child (pp. 43-85). New York: Academic Press.
Reviews the controversy surrounding SESAME STREET's first year. Critiques ETS research.

Mates, B. F. (1980). Current emphasis and issues in planned programming for children. In E. L. Palmer, & A. Dorr (Eds.), Children and the faces of television (pp. 19-32). New York: Academic Press.
Describes educational television's efforts to combine approaches of commercial entertainment with educational content. Discusses CTW model.

Mielke, K. W. (1977). What should be the federal role in children's television? The National Elementary Principal, 58(3), 44-49.
Discusses and analyzes issues that arise when the federal government gets involved in financial support of television programming, specifically children's educational programming.

Mielke, K. W. (1983). The educational use of production variables and formative research in programming. In M. Meyer (Ed.), Children and the formal features of television: Approaches and findings of experimental and formative research (pp. 233-252). Munich: K. G. Saur.
Discusses television production techniques and formative research linking instructional design with program revision. Examines the CTW model using SESAME STREET and other CTW productions as examples.

Mielke, K. W., Johnson, R. C., & Cole, B. G. (1975). The federal role in funding children's television programming. Bloomington: Indiana University, Institute for Communication Research, Department of Telecommunications.
Focusses on the USOE policy in funding purposive television programming for children.

Nassau County Board of Cooperative Educational Services. (1972). The Children's Television Workshop: How and why it works, Final report. Jericho, NY: Author.
Examines SESAME STREET's history and the CTW approach to program development.

Palmer, E. L. (1969). Can television really teach? American Educator, 5(7), 2-6.
Examines the research that went into the creation of SESAME STREET.

Palmer, E. L. (1969). Research at the Children's Television Workshop. Educational Broadcasting Review, 3(5), 43-48.
Describes CTW's research prior to SESAME STREET's premiere in November 1969.

Palmer, E. L. (1972). Formative research in educational television production: The experience of the Children's Television Workshop. In W. Schramm (Ed.), Quality in Instructional Television. Honolulu, HI: University of Hawaii Press.
Details the methods and procedures of CTW's pre-broadcast formative research on SESAME STREET and THE ELECTRIC COMPANY.

Palmer, E. L. (1972). Television instruction and the preschool child. International Journal of Early Childhood, 4(1), 11-17.
Examines the research that went into the creation of SESAME STREET. Describes SESAME STREET as an experiment in public broadcasting, preschool instruction, film and TV production, formative research, evaluation, and use of audience building techniques.

Palmer, E. L. (1975, June). Uses of formative evaluation in course development. Paper presented at the Second National Conference on Open Learning and Nontraditional Study, Lincoln, NE.
Describes eleven functions of formative research in improving the design of educational materials.

Palmer, E. L. (1976). Applications of psychology to television programming: Program execution. American Psychologist, 31(2), 137-138.
Discusses CTW's use of both educators and entertainers in the development and implementation of SESAME STREET and THE ELECTRIC COMPANY.

Palmer, E. L. (1980). Shaping persuasive messages with formative research. New York, NY: Children's Television Workshop.
Examines the role and value of formative research discussing specifically its role in providing audience feedback to guide improvements in instructional television design.

Palmer, E. L. (1983). Formative research in the production of television for children. In M. Meyer (Ed.), Children and the formal features of television (pp. 253-278). Munich: K. G. Saur.
Describes and analyzes the approaches to formative planning and research taken by CTW in the production of SESAME STREET and THE ELECTRIC COMPANY.

Palmer, E. L. (1984). Providing quality television for America's children. In J. P. Murray & G. Salomon (Eds.), The future of children's television (pp. 103-122). Boys Town, NE: Boys Town.
Examines quality television production for America's children modeled after children's television schedules in Japan, Great Britain, Sweden and other industrialized countries. Discusses funding history of CTW's programs including SESAME STREET.

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Palmer, E. L. (1988). Television and America's children: A crisis of neglect. New York: Oxford University Press.
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A pre-SESAME STREET study of preschool educational programming.

Polsky, R. M. (1974). Getting to SESAME STREET: Origins of the Children's Television Workshop. Palo Alto, CA: Aspen Institute for Humanistic Studies, Palo Alto, Calif.
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White, P. B. (1980). SESAME STREET: The packaging of a curriculum. Journal of Educational Thought, 14(3), 209-219. (ERIC Document Reproduction Service No. EJ 239 744).
Examines how the use of advertisements and television influenced the planning of SESAME STREET's curriculum and pedagogy.

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A historiography of television for children. Gives history/chronology of SESAME STREET from 1969 to 1981, background, educational objectives, awards, and criticism of SESAME STREET.

Yin, R. K. (1973). The workshop and the world: Toward an assessment of the Children's Television Workshop. Washington, DC: Rand Corp.
Identifies the major issues, potential measures, and recommendations for future evaluations of CTW's overall impact.

AUTHOR INDEX

ORIGINAL

LEARNING FROM GHOSTWRITER:

STRATEGIES AND OUTCOMES

CHILDREN'S TELEVISION WORKSHOP
One Lincoln Plaza
New York, NY 10023

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CONTENTS

EXECUTIVE SUMMARY

This is a report of plans and their realization for the first two seasons of **GHOSTWRITER**, a multiple media literacy project launched in October 1992 by Children's Television Workshop (CTW). The report is intended both as feedback for stakeholders in the project such as its funders and producers, and, for a more general readership in the policy and scholarly communities, as information about a significant educational innovation.

Building upon a quarter century's experience in producing and evaluating media materials for informal education, including *Sesame Street*, *The Electric Company*, *3-2-1 Contact*, *Square One TV*, and *CRO*, **GHOSTWRITER** is CTW's most ambitious project to date. Through innovations in its pedagogical approach to literacy, as well as in its distribution and implementation through alliances with partners, **GHOSTWRITER** has engaged reluctant readers and writers in literacy-based thoughts and actions. It also has demonstrated the strength of social and moral issues in attracting children to the world of print. The project is targeted to children 7 to 10 years of age, with special emphasis on poor and minority children among whom literacy needs are most pronounced. Three principal curriculum goals were developed by in-house content experts, with guidance from an internationally recognized Advisory Board: (a) To motivate children to enjoy and value reading and writing, (b) to show children how to use effective reading and writing strategies, and (c) to provide children with compelling opportunities to read and write. **GHOSTWRITER**'s curriculum is not intended to substitute for the formal literacy education children receive in school, but rather to complement it and reinforce it in multiple ways.

The media components of **GHOSTWRITER** include a weekly television series (broadcast on PBS), a free monthly magazine, books, home videos, weekly newspaper features, teacher's guides for classroom use, guides for leaders of after-school programs, and ancillary materials such as puzzles, comics, and posters. CTW supports these components with activities such as a promotional campaign that includes contests and premiums for write-ins. The project components are all thematically and administratively coordinated.

The center of the project is the television series, and the major character on the series is a magical and gentle "ghost" who communicates with a team of special mystery-solving friends (a multicultural cast of six children), but only through written messages. The mystery format provides plentiful opportunities to model strategic reading and writing--what the strategies are and how they work--as a central part of the plot.

Integral to the project design and administrative strategy in its first two seasons was an extensive outreach component, through which **GHOSTWRITER**'s mass media materials could be targeted to special audiences and utilized under adult supervision. A central role in outreach was played by CTW's Community Education Services (CES) department. Through the CES division, CTW formed effective alliances with five national youth-serving organizations as well as with many local community-based groups, where, in the aggregate, millions of target-age children, many of them minorities, spend significant parts of their day between school and home. Many youth-serving organizations have their own educational goals regarding literacy, and so were willing to both adopt **GHOSTWRITER** materials into their own programs and able, as allies, to boost its effectiveness. Similarly, teachers were encouraged and supported in adapting the project

for classroom use through CTW's Schools department, and local PBS stations were supported with materials to distribute to either schools or after-school groups in their communities.

Throughout an 18-month process of research and development (R & D), the GHOSTWRITER project was being shaped well before production began. During production, an in-house team of formative researchers assisted the creative process by getting feedback from children and adults on important practical issues of project design and implementation. The R & D phase and early formative research work are both cited in the report as background and foundation for the main topic: the assessment of outcomes of the completed GHOSTWRITER project in actual use.

Substantial evidence of GHOSTWRITER's impact is provided by the multimethodological program of research that was conducted, which includes naturalistic studies, surveys, collection and interpretation of natural indicators, informal feedback from the field, focus groups, and in-house studies. Although the measurement of outcomes for the second curricular goal--to show children how to use effective reading and writing strategies--was initially considered most appropriate for a specially designed controlled experiment, it was ultimately concluded that the methodological and logistical requirements for a fair and rigorous experimental evaluation of Goal II were beyond the scope of the financial resources and time frame available for the effort. A complementary set of research approaches generated a large body of findings pertaining to the project outcomes.

Outcomes for the GHOSTWRITER project are presented in a logical progression of four steps: (a) distribution, awareness, and reach; (b) response/appeal; (c) implementation/use; and (d) impact/effects (both within and beyond the purview of the three curricular goals).

Distribution, Awareness, and Reach

GHOSTWRITER has been highly successful in reaching both a large, general audience of children ages 6 to 11, as well as its targeted audience of low-income and minority children. In its first two seasons, GHOSTWRITER typically aired on Sunday evenings, and was accessible to 96 percent of U.S. TV households. During an average minute of programming, GHOSTWRITER was viewed by 700,000 children in the 6 to 11 age range in Season One; in Season Two, the corresponding figure had grown to 900,000. Across the entire season, GHOSTWRITER reached a cumulative audience of 34 million different persons in Season One, and about 37 million in Season Two. In February 1994, GHOSTWRITER was drawing a larger audience of 6- to 11-year-olds than 8 out of 10 of the children's shows on commercial television, ranking 15th out of 81. Across Seasons One and Two combined, the proportions of minority and low-income households reached by GHOSTWRITER were greater than the average for the total U.S. households, indicating the success of GHOSTWRITER's special efforts to reach these target groups.

In the print medium, the major component is *GHOSTWRITER* magazine. A distribution model was established in which roughly 2 million free copies of the magazine were distributed each month to children through teachers, after-school group leaders, and local PBS stations. By April 1993, about 6 months after launch, a survey in 4 cities found 70 percent awareness of the GHOSTWRITER TV series and 55 percent awareness of *GHOSTWRITER* Magazine among target-age children.

Response/Appeal

The first indications of GHOSTWRITER's audience appeal in both television and print media came from a series of eight studies that were completed even before the project was formally launched. These studies served their intended function of identifying program elements that needed modification, but also revealed the appeal of GHOSTWRITER to the target audience even before the initial broadcast. Among nearly 700 press articles appearing shortly after the launch of GHOSTWRITER were 53 independent reviews; of these, 51 were very favorable. A national survey of children who had watched the program found 80 percent or more rating GHOSTWRITER as "great" or "good." Other surveys documented the positive responses to *GHOSTWRITER* Magazine by teachers and adult leaders in youth-serving organizations.

Implementation/Use

Among home viewers in Season One, a special analysis found a high level of co-viewing: 40 percent of viewers in the 6 to 11 age range were viewing in the presence of an adult. This implies the opportunity for family discussion of the GHOSTWRITER content, and previous research suggests that such discussions can enhance the educational impact of media materials. The richest descriptions of how GHOSTWRITER was used in schools and after-school settings came from naturalistic studies, where implementation of GHOSTWRITER could be observed in sociological and organizational context. A wide variety of uses are documented in which the social and moral themes of the dramatic stories were sometimes used as motivations within a literacy program, and were sometimes considered to be valuable curriculum items in their own right. A companion document to this report, entitled GHOSTWRITER and Youth-Serving Organizations, elaborates more fully on the varied uses of GHOSTWRITER in such settings and on the benefits of alliances between institutions that produce mass media educational materials and youth-serving organizations and schools.

Impact/Effects

GOAL I: TO MOTIVATE CHILDREN TO ENJOY AND VALUE READING AND WRITING. Surveys and naturalistic studies contain evidence from the observations of adult supervisors that GHOSTWRITER has helped children to enjoy and value reading and writing. For example, one classroom teacher commented, "They [the classroom students] read every time they watch the show, therefore reading's not an arduous task. They're writing when they watch the show; therefore writing's not an arduous task. What more can I ask for?" Achievement in Goal I can also be inferred from the actual behaviors of reading and writing, which are covered later under Goal III.

GOAL II: TO SHOW CHILDREN HOW TO USE EFFECTIVE READING AND WRITING STRATEGIES. Strategic approaches to literacy were repeatedly and systematically modeled in the television series and encouraged in the magazine. The major pedagogical approach was to embed these literacy strategies in dramatic contexts that the children would identify with, where literacy would have meaningful contexts and personal payoffs. The naturalistic studies describe a variety of ways in which adult mediators used the project, and ways in which children responded to it, that the GHOSTWRITER Content staff considers "strategic" and consistent with Goal II. Adult implementations of GHOSTWRITER that are interpreted as furthering Goal II include using it as an

aid to create a road map of story elements, to identify main ideas and details, to build vocabulary, to organize materials, to take notes, to predict what will happen next in the story, and to sequence ideas. In the simpler language of the self-reports of children, the uses of literacy strategies might take such forms as the following: " ... **GHOSTWRITER** helps you use your imagination .... **GHOSTWRITER** gives you a clue .... when you get clues, one at a time, and you put them in, then you have the word."

GOAL III: TO PROVIDE CHILDREN WITH COMPELLING OPPORTUNITIES TO READ AND WRITE. **GHOSTWRITER** offers a variety of reading and writing activities that go beyond school experiences with text, seeking to provide fulfilling literacy experiences to children who may have had *only* unsuccessful or unhappy encounters with the printed page. For many children, the first opportunity **GHOSTWRITER** provides to engage text is in the television series itself, where print on the screen is an integral part of the drama. Surveys show that vast majorities of children in home settings participate in this on-screen reading, and naturalistic studies document similar engagement in school and after-school settings. Numerous follow-up literacy activities cited in surveys and naturalistic studies also speak to Goal III, as in children individually keeping a casebook or collectively writing an original script for a **GHOSTWRITER** play, or in sending messages in code.

A major compelling opportunity to read is exemplified in the large-scale distribution of free *GHOSTWRITER* Magazines directed to target-age children. Many targeted magazine recipients were in poor and minority settings with relatively little tradition of personally owning a magazine to take home, to read, to write in, and to feel a continuing association with. A variety of studies consistently found *GHOSTWRITER* Magazine to be appealing to kids and perceived as useful by their adult supervisors. The fact that distribution of this magnitude was accomplished with favorable reception is a major achievement.

Finally, among the most incontrovertible evidence of Goal III attainment is the large number of letters written to **GHOSTWRITER**--over 450,000 in its first two seasons. **GHOSTWRITER** motivated children--many for the first time in their life--to go through the effortful steps required to write a letter, grappling with the many component tasks involved. In the aggregate, there is considerable evidence of achievement in Goal III, and, by reasonable extension, in Goal I.

OUTCOMES BEYOND GHOSTWRITER'S THREE EXPLICIT CURRICULAR GOALS. Educationally and socially significant effects beyond the three goals described above have been observed. The most important of these is a result of **GHOSTWRITER**'s embedding of literacy strategies within dramatic stories that deal with child-relevant questions, issues, and concerns. Repeatedly, in both school and after-school settings, the social and moral themes of the mystery stories became an important focus of learning, in addition to serving as the dramatic vehicle for modeling literacy strategies. The social/moral dimension of **GHOSTWRITER** and the positive values it exemplifies were what target-audience children often thought the show was "about" and were evident in what kids thought they were learning from the show. In the wide range of uses of **GHOSTWRITER** described in naturalistic studies, one can find examples that are predominantly literacy based, others in which virtually equal weight is given to literacy and social/moral issues, and still others in which the dominant focus is social/moral.

Another major category of documented outcomes beyond the three curricular goals takes the form of organizational learning, for both the external institutions allied with **GHOSTWRITER** and for CTW itself. The institutions that have incorporated this project, as well as their teachers and

adult leaders, have acquired new perspectives and have experienced powerful new instructional strategies based on their experiences with **GHOSTWRITER**. CTW itself will be able to apply to future projects its **GHOSTWRITER** experience in combining media, forming official partnerships with compatible institutions, and reaching low-income and minority children in mediated local settings with educational materials.

Starting with the conceptual goals for this project and continuing through its creative realization, implementation, and evaluation, the strategies employed are innovative. The outcomes of such risk-taking innovation, not only for CTW, but also for the project's many partners and participants, are documented forms of achievement, both within and well beyond the curricular goals of **GHOSTWRITER**.

I. OVERVIEW

This report is about project experience and research evidence relating to the first two seasons of GHOSTWRITER, a multiple media literacy project produced by the Children's Television Workshop (CTW). The report's title, Learning From GHOSTWRITER: Strategies and Outcomes, further delineates the intent: to describe what was planned and to see how those plans worked out. The primary aim in this brief introductory chapter is not so much to preview the content of following sections as it is to describe and explain the report's structure.

The multifaceted GHOSTWRITER project is introduced in Chapter II. General needs in children's literacy achievement are discussed, leading to determining the strategies for the role--complementary to formal education--that media projects in the CTW tradition might play. Within that framework, the project's goals and target audience are defined. The pedagogical strategy of "literacy on the plot line" is explained. The multiple elements in print and television media and their interrelationships are introduced, along with their extension by way of outreach. Beyond the coordinated media components, an essential feature of the overall project strategy was outreach to after-school groups, enabled by alliances with five national youth-serving organizations. Outreach also extended to distribution and support for school use of the project.

The evaluation of the completed GHOSTWRITER project in its released and utilized form is termed "summative evaluation," and is a major focus of this report. Long before summative evaluation processes were activated, however, there were other forms of research that helped to lay the foundation for this final assessment. Before production started, a body of Research and Development (R&D) work was conducted. As production started, a sophisticated program of "formative" research (addressed to product improvement during the formative stages) was conducted. Highlights of strategies and outcomes for this foundational research are presented in Chapter III.

The GHOSTWRITER project's many interrelated elements posed both measurement and design challenges to the summative evaluation. An overview of how these strategies were construed is presented in Chapter IV. This includes the rationale for multiple and complementary research methodologies, a model for examining both instrumental and end goals, and a review of six surveys that contributed to the summative evaluation data pool.

The summative evaluation outcomes are presented in Chapter V. The three major educational goals for the project are considered "end goals," which are preceded logically and chronologically by a series of instrumental goals or processes: distribution, awareness, and reach; response/appeal; and implementation/use. This leads finally to impact/effects, both for the three "end goals" and for other effects that fall outside the formal goal domains.

Among six appendices to the report are two that contain supplemental research data and narrative. These could have been included in the main body of the report, but it was felt that their subject matter might be too detailed to be of general interest to readers. Appendix B discusses special methodological issues posed by GHOSTWRITER's complexity. To a methodologist or evaluation specialist, these insights are a form of project outcome. Appendix C goes into Nielsen audience ratings methodology and data in more detail. Other appendices contain an elaborated statement of project goals, two annotated research bibliographies, and a listing of GHOSTWRITER's Advisory Board.

II. GHOSTWRITER PROJECT STRATEGY

On October 4, 1992, a new children's television series called **GHOSTWRITER** premiered nationally on the Public Broadcasting Service (PBS).[1] With this broadcast, Children's Television Workshop (CTW), creator and producer of the series, formally launched a multiple media literacy project designed to help children become more confident and purposeful readers and writers. This project encompassed television, video, books, magazines, newspapers, classroom materials, outreach, and promotion.

Like *Sesame Street*, CTW's pioneering television series for preschoolers,[2] **GHOSTWRITER** is an innovative experiment in informal education--one that seeks to use the power of the media to engage children in learning and make their experiences both fun and rewarding.

In the number and diversity of its components, in the scale and reach of its television and print programs, and in the scope of its outreach, promotion, and research efforts, the **GHOSTWRITER** project was the most ambitious in CTW's history. Many complex elements had to be coordinated, including a wide network of collaborative partnerships organized to maximize **GHOSTWRITER**'s exposure and use at the community and national levels.

Target Audience and Project Goals

Reading and writing are complex skills that, once acquired, develop into habits of mind. Unfortunately, too many Americans--an estimated two out of five adults--lack the basic literacy competence to decipher a street sign, fill out a job application, or read a bedtime story to their children (Kirsch & Jungeblut, 1986). The crisis is greatest among low-income and minority Americans, but is by no means confined to them. Functional illiteracy is a societywide problem that can be addressed only on multiple fronts: in the home, in school, in the community and work place, and in the media at large. Young children, especially, need to get the message early on that reading and writing are more than just classroom activities; they are tools for living--and they can be fun.

The **GHOSTWRITER** project is an effort to make the printed word come alive for children during their critical years of literacy development. Its target audience is 7- to 10-year-olds, with a special emphasis on children who belong to economically disadvantaged or minority groups, since

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[1] Funding for the first and second seasons of the project was provided by a public-private partnership that included the NIKE Just Do It Fund, public television viewers, the Corporation for Public Broadcasting, the John D. and Catherine T. MacArthur Foundation, The Pew Charitable Trusts, the U.S. Department of Education, and Children's Television Workshop. Additional funding for the first season was provided by the Mary Reynolds Babcock Foundation. The summative evaluation of **GHOSTWRITER** was made possible by Carnegie Corporation of New York and the U.S. Department of Education. Additional support was provided by Children's Television Workshop, which is solely responsible for its content.

[2] *Sesame Street* is currently in its 26th year on PBS. Other CTW educational television productions include: *The Electric Company*, *3-2-1 Contact*, *Square One TV*, and *CRO*. All of these series have been supported by a variety of educational print materials.

these populations are reportedly at greater risk for poor literacy development.[3] Children within this age group typically know something about the basic mechanics of reading and writing, but they may not yet know how to apply these skills effectively to interpret or create text. Furthermore, many hesitant young readers and writers, upon reaching the literacy crossroads at the upper end of the age range, often languish there because they lack confidence in their abilities or fail to perceive any rewards in persevering in their struggles with text.

To these and other children in its target audience, the GHOSTWRITER project seeks to offer multiple--and easily negotiated--points of entry into the world of literacy. GHOSTWRITER's curriculum is not intended to substitute for the formal literacy education children receive in school, but rather to complement it and reinforce it in alternative venues. The principal curriculum goals of the project are threefold:[4]

- To motivate children to enjoy and value reading and writing;
- To show children how to use effective reading and writing strategies; and
- To provide children with compelling opportunities to read and write.

Project Components

In an effort to reach a wide and diverse audience of 7- to 10-year-olds, CTW designed a multifaceted project embracing the following elements: television, print, outreach, video, and promotion. Each of these five GHOSTWRITER elements is described below.

The GHOSTWRITER Television Series

CTW has produced 16 complete GHOSTWRITER mysteries--consisting of 66 half-hour episodes--for broadcast in the United States on PBS, and in 20 countries throughout the world.[5] GHOSTWRITER debuted on 312 of the 336 public television stations in the United States, making it accessible in 96 percent of all television households.

THE STORY LINE. GHOSTWRITER is a mystery-adventure series set in a contemporary urban environment (Brooklyn, New York) and featuring a multicultural cast of six children (three boys and three girls) ranging in ages from 8 to 13 years old. These children share a big secret: they have a "ghost" for a friend. They call this magical and gentle being "Ghostwriter" because he

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[3] According to 1993 findings by the National Assessment of Education Progress (NAEP), which reports on literacy levels of students in grades 4, 8, and 12, more than 41 percent of 9-year-olds in the United States have not achieved "basic reading skills" (Mullis, Campbell, & Farstrup, 1993). And while about one third (32 percent) of white fourth graders are deficient in basic reading skills, the failure rate rises to 45 percent among Asian fourth graders, 50 percent among Native American, 59 percent among Hispanic, and 69 percent among African-American. Two years earlier, the NAEP reported gloomily that fourth graders' writing skills were also sub-par and that there had been no improvement in these skills in 6 years (Applebee, Langer, Mullis, Latham, & Gentile, 1994).

[4] See Appendix A, "GHOSTWRITER Project Curriculum Goals," for a detailed description of these goals.

[5] CTW co-produced programs for Seasons One and Two with the Schools Television Division of the British Broadcasting Corporation (BBC). The BBC began broadcasting the series in the fall of 1992 on BBC-2 for in-school use and for home viewing on weekends. To date, GHOSTWRITER has been licensed for broadcast in 25 countries abroad.

communicates with them--and they with him--only through written messages.[6] Shortly after Ghostwriter arrives on the scene in the premiere episode, "Ghost Story," the friends band together to solve a baffling neighborhood mystery. This success leads them to form their own amateur "detective squad"--the GHOSTWRITER team. With the aid of their invisible[7] word-loving partner, these hip young sleuths go on to tackle other mysteries; confront a variety of social, personal, and family problems; and explore the challenges and rewards of reading and writing along the way.

LITERACY CURRICULUM. GHOSTWRITER adventures normally unfold over four half-hour episodes, making up a complete story "Arc." The first three episodes end in cliffhangers; the fourth resolves the tension and ties up loose ends. Within this overall story structure, GHOSTWRITER's literacy curriculum operates on a number of different levels. It is embedded in the show's story line. It is modeled in the personalities and creative pursuits of GHOSTWRITER team members. And it is given formal expression in the program's on-screen print conventions, which are calculated to give children maximum opportunities--and incentives--to read and write as part of their viewing experience.

LETTERS TO GHOSTWRITER

DEAR GHOSTWRITER,
I THINK ROB'S COOL BECAUSE HE LIKES TO WRITE AND I LIKE TO WRITE TO. I'M A BOY AND I'M 7. I'M ALSO INTERESTED IN THE VIOLIN. I THINK IT'S COOL WHEN THE GHOSTWRITER TEAM WRITES TO GHOSTWRITER, AND THEN HE WRITES BACK. MY NAME IS ------.
YOUR BIGGEST FAN,
-- *[NAME]*

LITERACY ON THE PLOT LINE. At critical moments in the plot, when the stakes are high and when viewers are emotionally invested in the outcome, the story cannot move forward unless the characters exercise their wits and apply good reading and writing strategies. These strategies include setting goals, using prior knowledge, organizing ideas, making the point, re-reading and re-writing, and using resources. In a typical situation the team might need to break a code, evaluate an incriminating document, write an urgent letter, dissect a poem for clues, locate a decades-old newspaper story, or compose a persuasive speech. On GHOSTWRITER, dramatic problems require literacy solutions, and literacy solutions always culminate in clear and credible rewards. CTW calls this guiding principle "literacy on the plot line."

GHOSTWRITER's approach to dramatic conflict is actually a thinly disguised metaphor for places where children get stuck in text. What distinguishes the successful reader and writer from one who flounders is not necessarily a matter of intelligence--poor readers and writers are often extremely bright. The good reader, however, is someone who perceives value in literacy and who has a repertoire of strategies for dealing with text, including: knowing how to use resources, knowing how to guess meaning from context, and knowing when to skip over a hard part and go on if all else fails. A good writer wants to create text readers will understand and is willing and able to generate ideas and work to make them clear. A child watching GHOSTWRITER gets to

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[6] Although Ghostwriter's character is defined exclusively through writing, he has both video and audio signatures--an animated icon that indicates his presence on screen and a rich vocabulary of sound effects that add accents, inflections, and mood.

[7] On the show, only members of the GHOSTWRITER team--and not other characters--can see Ghostwriter and read his messages. Viewers can also see Ghostwriter, and are therefore also members of the GHOSTWRITER team. The effect is to create a literacy club that is instantly inclusive. As one 9-year-old boy from Memphis wrote in a fan letter: "Can I please be on the team? I can see Ghostwriter you know."

practice effective reading and writing skills and has an opportunity to experience literacy as an inviting game.

MODELING LITERACY. **GHOSTWRITER** is a live-action dramatic series created *for* kids that *stars* kids. It portrays a world in which the words, ideas, and feelings of children have efficacy and are treated with respect by adults. By design, the program offers its viewers something more than two-dimensional characters as role models. Even Ghostwriter is a fully realized creation and consistently ranks as the show's favorite character (Nielsen New Media Services, 1993a, 1993b).

GHOSTWRITER presents children with a cast of smart, attractive, and realistically drawn characters--kids who speak their own language and with whom they can identify. To engage its target audience in the fates of these appealing urban role models, **GHOSTWRITER** stories are *character-* as well as *plot*-driven. Each member of the team has his or her own evolving story line and differentiating literacy interests. For example, Jamal Jenkins likes to communicate with Ghostwriter by computer; Alex Fernandez has a knack for cracking codes; Tina Nguyen loves to write and shoot videos; Lenni Frazier is a budding songwriter and performer; and, of course, Ghostwriter is a "magical maestro" of word play. The implicit message of the series is that any child can aspire to be a good reader and writer and still be "cool."

LITERACY AS EMPOWERING. Another subtle but important theme is that the word is, indeed, mightier than the sword. **GHOSTWRITER** kids may at times find themselves in emotional turmoil, or be pushed to extremes, but they always resolve their problems--whether they be personal, familial, or social--by talking them out or writing about them.

LITERACY AS COMMUNITY. The modeled behavior on **GHOSTWRITER** serves as an antidote to the notion that reading and writing are purely solitary acts. In the **GHOSTWRITER** team, six friends and Ghostwriter join hands in a kind of cooperative "literacy community." With Ghostwriter's help, and by helping each other, these children learn how to express themselves better, clarify their thinking, and work through sometimes troubling feelings. Literacy, understood as the practice of effective communication skills, emerges as a fundamental social activity, one that brings friends closer together, makes the world more comprehensible, and links the minds of writers and readers across time and space.

LETTERS TO GHOSTWRITER

DEAR GHOST WRITER AND TEAM.
MY NAME IS ——. I ENJOY YOUR SHOW. I LOVE YOUR HAND WRITING BECAUSE IT EVEN SHOWS ME HOW TO WRITE BETTER. I HAVE BEEN GETTING SICK LATELY. I HAD PNEUMONIA LAST YEAR ON CHRISTMAS VACATION. I'M GLAD I'M BETTER NOW.

ACTIVE VIEWING. If **GHOSTWRITER**'s aims were only to enhance children's appreciation of the written word and model effective literacy strategies, the project's work would be incomplete. A key goal of **GHOSTWRITER** is to provide children with direct and meaningful opportunities to read and write--through all of the project's various television, print, and outreach components. Viewers of the television program are encouraged to play (and work) along with the **GHOSTWRITER** kids by reading text off the screen, and by writing down clues in a detective's "casebook" like the one kept by the team. They are also encouraged to write to the **GHOSTWRITER** team.

The program uses numerous on-screen devices to spotlight text. Ghostwriter has his own distinctive and colorful fonts. There are frequent close-ups on text and on computer screens as the characters communicate with Ghostwriter. Viewers get to read important bits of evidence as they are entered in the team's casebook. Codes, rebuses, comic-book panels, letters, posters, poems,